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Cross-border Market Co-creation, Dynamic Capabilities and the Entrepreneurial Theory of the Multinational Enterprise*

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ABSTRACT

The concepts of asset co-specialization and dynamic capabilities have been instrumental in furthering the organization and strategy scholarship agenda, but have so far had limited impact to the theory of the MNE and FDI. In addition, the role of entrepreneurial management in orchestrating system-wide value creation through market and eco-system creation and co-creation, in order to advance private appropriation, has been all but ignored. We claim that these ideas can help explicate the nature of the MNE in the knowledge-based, semi-globalized economy. The nature of the MNE in its turn should not be seen as separable from either the objectives of the agents (entrepreneurs) who set them up or its essence – the employment of strategy to capture co-created value.

KEYWORDS: Asset Co-specialisation, Dynamic Capabilities, Cross-border Market and Ecosystem Co-creation, Theory of MNE and FDI, Entrepreneurial Theory

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I. Introduction

2010 marks 50 years since the PhD thesis of Stephen Hymer (1960/1976), who is widely regarded as the founder of the theory of the multinational enterprise (MNE) and foreign direct investment (FDI) (Dunning and Rugman, 1985; Teece, 1985; Dunning and Pitelis, 2008). It is also 30 years since the development of John Dunning's (1980) "eclectic paradigm", subsequently renamed as "Ownership, Location, Internalisation" (OLI), Dunning (1980, 2001), Dunning and Lundan (2008). It is, however, arguable that limited progress has been made on the economic theory of the MNE and FDI following these classics and subsequent canonical contributions from Buckley and Casson (1976), Teece (1977, 1981b), Williamson (1981), and Kogut and Zander (1993). A reason for this lies in the employment of a limited economic lens by many scholars of the MNE, a lens which has discouraged the leveraging of recent scholarly developments in organization theory and strategic management.

Our aim in this paper is to build on such developments over the past 25 years or so, to inform our understanding of the nature, objectives and essence of the MNE. We suggest that in contrast to the conventional economics-based approaches, the aforementioned can fruitfully be seen as interrelated, co-determined and co-evolving. Moreover, MNEs exist because of the desire by their principals (entrepreneurs) to create and capture value through the establishment and design of organizations that help co-create cross-border markets, shape eco-systems, and leverage capabilities. We submit that the concepts of co-specialization, market and eco-system creation and co-creation, and dynamic capabilities (DCs), are essential to explicating the nature and essence of the MNE. Embracing critical developments in organization, strategy and

entrepreneurship scholarship can help the theory of the MNE move beyond the purely economics-based paradigm toward a multidisciplinary perspective that is both richer in descriptive content and more poignant in predictive power.

Hymer (1960/1976) drew inspiration and insight from the field of industrial organization (IO). The focus of the field for many years was on industrial structure and monopoly power. Concentrated industrial structures were assumed to cause market power. Since FDI was common in concentrated industries, Hymer deduced that FDI led to global monopoly—a highly questionable proposition (Dunning and Pitelis, 2008).

The IO literature did not have much to say about the factors covering innovation. In fact, in many models innovation is often taken as exogenous. Moreover knowledge is assumed to transfer costlessly and frictionlessly. Firms are often treated as 'black boxes', bereft of intra-firm issues. Analysis of decision making, innovation, resources, capabilities and strategies is largely absent. To the extent that internal organizational issues are examined, they tend to be related to incentives and principal-agent problems

While scholarship in the field of strategic management has drawn extensively on the IO economics approach in the 1980s and 1990s, notably in the work of Porter (1980, 1985), the concerns, focus, and tools of strategic management scholars over the past 25 years or so have advanced beyond the IO tradition. In part this is in recognition of the rather limited ability of IO economics, its concepts, assumptions and method, to inform organizational issues (Coase 1991; Simon, 1995; Makowski and Ostroy, 1995;

Lippman and Rumelt, 2003a,b; Augier and Teece, 2009). It is also in part a recognition that product market "positioning" (e.g. market share) is at best an ephemeral statement of where an enterprise might have been. Product market positions, whether domestic or global, are a poor reflection of where the enterprise is and where it can go. Such questions depend much more on the firm's "resources" and "capabilities", which are more primitive characteristics of the business enterprise. Technological and organizational capabilities are core to these assessments.

By employing concepts and ideas developed in the context of the resource-based-view (RBV) of the firm (Penrose, 1959; Teece, 1981b, 1982; Wernerfelt, 1984; Barney 1991; Peteraf, 1993; Foss, 1996; Pitelis, 2000), the (dynamic) capabilities (DCs) based views (Dosi et al., 2000, 2008; Teece et al. 1997; Pitelis, 2007b; Teece, 2007; Di Stefano et al., 2010; Kay, 2010; Romme et al., 2010), as well as the entrepreneurship literature (Casson, 2005; Rathe and Witt, 2001), scholars are beginning to explore more fundamental issues. These include understanding how the pursuit of value creation and appropriation motivates economic agents to design and set-up organizations and even markets with both domestic and global footprints.

The twin concepts of co-specialized assets and dynamic capabilities have become influential in the development of the theory of the firm (Teece, 2007; Pitelis and Teece, 2009). However, so far they have had limited impact on the theory of the MNE and FDI (Augier and Teece, 2007). Existing literature in international business (IB) scholarship has neglected to explore whether and how entrepreneurial management's capabilities to effectuate cross-border value co-creation and capture are important to the theory of MNE. We claim that in the modern semi-globalised, knowledge-based

economy, entrepreneurial management's capabilities in cross-border market and eco-system co-creation (and related technology development and transfer) should be seen as the essence and a reason for the existence of the MNE. This is a wider mandate and purpose than merely minimizing transaction costs, although that remains an element. Our focus is not just on cost minimization but also on opportunity generation and value capture. In particular, we focus on how MNEs, their principals and managers, create and capture value on a global scale.

Section II provides a critical account of developments in the economic theory of the MNE and FDI. Section III considers how DCs can be usefully injected into the theory of the MNE. Section IV proposes that DCs in cross-border market, eco-system and value co-creation are seen as the DCs par-excellence in explaining the nature and the essence of the MNE. Section V has conclusions and policy implications.

II. The Economic Theory of the MNE and FDI

a. Historical Review

The modern theory of the MNE and FDI is rooted in the economic theories of the firm and IO (Hymer, 1960/1976; Horst, 1972; Magee, 1977; Buckley and Casson, 1976; Teece, 1977). Hymer (1960/1976) claimed that the pursuit of monopoly profits by firms already dominant in developed country markets such as the U.S., would eventually motivate them to consider 'foreign operations', including the establishment of overseas subsidiaries (FDI).

For Hymer, the reason for the global leveraging of domestic assets was rooted in some version of monopoly theory.[1] His fundamental insight was that the MNE was

not primarily a capital market phenomenon engaged in leveraging capital from geographic domains where it enjoyed low returns to geographic domains where it might earn higher returns. Instead he claimed that **R**ivalry reduction, benefits arising from the intra-firm use of **A**dvantages, and the risk **D**iversification (RAD) – related benefits of FDI explained the existence of the MNE, as well as why MNEs were able to compete with locally-based rivals in foreign countries, despite potential inherent disadvantages of being foreign (Hymer, 1976: 46).

Subsequent development in the economic theory of FDI and of the MNE stressed efficiency. In particular, the contributions of Buckley and Casson (1976), Teece (1977, 1981a,b), Rugman (1980), Williamson (1981), Dunning (1980, 1998) and Kogut and Zander (1993) explored the various reasons why the intra-firm exploitation of advantages could be more efficient than market-based arrangements.[2] The emergent 'internalisation' literature focussed on explicating the reasons for FDI in terms mainly of lower transaction costs.[3]

The nature and role of knowledge was addressed by Hymer in a subsequent paper in French (Hymer 1968) and more so by Buckley and Casson (1976), Teece (1977; 1981a,b), and Kogut and Zander (1993). The focus on knowledge and industrial know-how has come back into vogue following the emergence of the resource-based-view (RBV) and knowledge-based views of the firm (Penrose, 1959; Teece, 1982; Wernerfelt, 1984; Barney, 1991; Peteraf, 1993; Grant 1996; Spender, 1996; Mahoney and Pandian, 1992). RBV and learning-based-ideas have been employed to provide more dynamic interpretations and to update Dunning's OLI (Dunning, 2001; Pitelis, 2007a).[4]

One of the potential knowledge-related 'advantages' of being an MNE involves the creation of a portfolio of subsidiaries. Subsidiaries can be thought of as each representing a distinctive cluster of capabilities. Leveraging the skills of subsidiaries, as well as identifying the best way to do this (for example through 'granting' subsidiaries relative autonomy, or keeping 'tight' controls), has emerged as an important issue in IB scholarship (Hedlund, 1986; Birkinshaw, 1997a,b; Birkinshaw and Hood, 1998, 2000; Eden, 1991; Yamin and Forsgren, 2006; Papanastassiou and Pearce, 2009).

b. Theory of the MNE versus Theory of the Business Enterprise

It is arguable that despite much progress, there is little that is specifically "multi-national" or "foreign" about the economic theory of the nature of MNE and FDI. For example, all three elements of Hymer's triad, apply equally well to diversified firms within a nation (Penrose, 1987). This is also true concerning 'internalisation'-type theories as well as the OLI. Multi-nationality involves the existence of borders, of different sovereign nations, all with the ability to regulate and tax individuals and firms (North, 1994). Accordingly, a theory of the MNE needs to explore the differential costs and benefits of different sovereign legal jurisdictions (Penrose, 1987; Ghemawat, 2007).

Despite the fact that numerous commentators share the above views, there have been few attempts so far to focus on what is uniquely 'multi'-national or 'foreign' in the economic theory of the MNE and FDI (see Boddewyn and Pitelis, 2009). In an early exception, Teece (1977) collected primary data in order to identify the extra costs of technology transfer attributable exclusively to multi-nationality. While the results

confirmed his view that multi-nationality matters, he also went on to conclude that: "Further analytic research and more extensive data collection are required if our understanding of international technology is to be improved" (Teece, 1977: 260). Unfortunately, there has been little progress on this front since.

Teece's (1977, 1981a,b, 1985) insights and analysis were subsequently developed independently by Kogut and Zander (1993) into their evolutionary theory of the MNE. Teece's focus was on the costs of (international) technology transfer. Kogut and Zander emphasized (lower) intra-firm costs, which was what Teece found to be generally, though not always, true. Cantwell (1991) employed the concept of technological accumulation to flesh-out the nature and extent of MNE superior advantages. Pitelis (1991) assembled market failure and firm advantage-related arguments to explain the firm and the MNE, in an early differential abilities-based framework.

Nevertheless the economic theory of the MNE and FDI has been slow in incorporating more recent conceptual developments from the wider organization, entrepreneurship and strategy fields. In addition it faces a significant challenge in explicating current practice and strategies of MNEs. Such practices and trends include outsourcing and offshoring of components and subsystems. R&D is also beginning to move offshore (Teece, 2006a). Offshore R&D used to be primarily for adaptation (Mansfield et al., 1979). Many firms have moved to "open" innovation, or combined 'closed' with 'open' innovation (Chesbrough, 2003). Often this involves keeping sufficient in-house R&D to create the 'absorptive capacity' to identify (or even develop) 'open' innovation opportunities created by others, or in collaboration with

others (such as universities), that can be captured by the MNEs (*Research Policy*, 2006; Panagopoulos and Pitelis, 2009).

Despite Hymer's and much of subsequent literature's focus on the unique advantages of FDI, many MNEs today, for example Starbucks, adopt a 'portfolio approach', combining simultaneously FDI, franchising and inter-firm cooperation. They also often employ a 'stages' approach, whereby an initial joint venture is eventually followed by FDI. In addition, MNEs seem now more aware of the systemic benefits of overall value creation and "eco-system" engineering on a global scale. Large firms like Siemens, Microsoft and McDonald's can stimulate the creation of productive environments by funding universities, collaborating with and rivals, helping complementaries to innovate. Many other firms, like IBM and Apple, focus on employing their complementary integration, design and marketing capabilities to create and capture value. They package extant industrial and design knowhow into attractive new products. The MNEs have gradually morphed from 'system-integrators' (Teece, 1986, 2006a) within the firm, sector, region or nation, to become "orchestrators" of the wider global value creation process.

It is arguable that the extant economic theory of the MNE has failed to address the above issues adequately and is thus unable to explain how MNEs develop and sustain competitive advantage (CA). We claim that the concepts of cross-border market co-creation by entrepreneurs and entrepreneurial managers can help address limitations and provide a *differentia specifica*, or *raison d'être*, for the MNE. In addition, the concepts of co-specialisation and dynamic capabilities (DCs), both at firm and

country-levels (Teece, 2006a; Augier and Teece, 2007), could be usefully leveraged to explain the origin and exploitation of CA by MNEs. We pursue these ideas below.

III. Resources-Capabilities and the Theory of the MNE

a. Resources/Capabilities

Largely missing from the economic theory of the MNE and FDI has been consideration of the importance of agency and the particulars of the firm's managerial and organizational capabilities.[5] This is despite the fact that the work of Edith Penrose provided important elements of a resource/capabilities perspective (Pitelis, 2009b).[6] A careful reading of Hymer, would indicate that he too was aware of resources/capability arguments, particularly in his 1968 article (Teece 1985; Dunning and Pitelis, 2008).[7] Hymer referenced Bain (1956) for what we know about ability (Teece, 1985). However, Bain's framework did not endeavour to develop capability concepts. Cantwell (1989) correctly recognized that MNEs are frequently active generators of firm specific competitive advantages. He saw the firm in evolutionary terms accumulating technology (and capabilities) over time. Moreover, technology transfer activities by MNEs create spillover benefits. These external economies enhance the competitive capabilities of regions, thereby possibly stimulating more inward FDI.[8] The capabilities approach outlined below emphasizes both the organizational and the technological capabilities of MNEs and is thereby capable of adding to our understanding of such phenomena.

b. Resources/Capabilities Compared to the "Internalization" School

The internalization school saw the essence of MNE activity as being driven by market "failure". There was little room for seeing the MNE as an instrument to embrace the

global creation of knowledge assets, markets and value. Even appropriability was given limited attention. Magee's (1977) early mention of it was primarily confined to market power issues.

In Teece (1977), knowledge and capabilities were explicitly flagged as being central to the MNE. If a firm possesses capabilities, it can create and capture additional value by scaling them globally. The modern capabilities approach represents business enterprises as bundles or portfolios of difficult-to-trade assets and competencies. Within this framework, CA can flow at least for a period from the possession and protection of scarce and difficult to imitate assets.[9] However, sustainable competitive advantage (SCA) can only flow from whatever unique ability business enterprises have to continuously shape, reshape, configure and reconfigure, and align those assets to create new technology, to respond to competition, gain critical mass, and serve changing customer needs. The particular (non-imitable) "orchestration"[10] capacity of business enterprises has come to be known as the firm's (dynamic) capabilities (Teece, 2007; Augier and Teece, 2007, 2009; Katkalo et al., 2010)..

The DCs framework is especially relevant to markets embedded in a semi-globalized, knowledge-based economy. With the continuous expansion of world trade and investment, with factors of production being highly mobile, and with the sources of innovation becoming increasingly global, an increasingly larger share of the global economy is reasonably accurately characterized as "open" i.e. as being exposed to the forces of global competition, and to the international flows of capital, technology, and skilled labour. The payoff to flexibility[11], agility, entrepreneurship, learning, and astute investment choices and other factors that are central to the DCs framework has

increased since the 1960s when the global liberalization of trade and investment began gaining momentum (Teece, 2000). Moreover, intangible assets and intellectual capital are playing a greater role in economic activity.

IV. Some Microfoundations of MNE Dynamic Capabilities (DCs)

a. General

DCs include hard to imitate cognitive skills and organizational processes; global sourcing and global marketing routines; the business intuition and insight needed to create new business models and revenue architectures that scale globally; the investment insights, protocols, and procedures which enable the business enterprise to identify, address and importantly create new markets and technologies. These capabilities are firm specific and do not migrate automatically from one firm to another. DCs also include the capacity to calibrate uncertainty, and continuously effectuate the co-alignment and efficient governance of co-specialized assets domestically and internationally. They are rooted in organizational routines and processes, and also in the capabilities of entrepreneurial management (Augier and Teece 2009; Katkalo et al., 2010).

The typical MNE owns and/or controls assets in numerous jurisdictions. Differences between firms can be considerable and need not erode instantly, as assumed in some economic theories. When there is a wide diversity of assets inside and outside the enterprise and complex regulatory and taxation regimes to navigate, global orchestration skills are important. Orchestration needs and opportunities tend to expand as the firm globalizes, since the panoply of assets an MNE can control is likely to be more extensive (Augier and Teece, 2007). As already noted, for example,

MNEs increasingly recognize that each of its (globally distributed) R&D laboratories can be the source of new innovation, and it must organize itself appropriately to capture these potential benefits (Almeida and Anupama, 2004; Kottaridi et al, 2010).

Inasmuch as change requires continuous adjustments to business models and realignment of assets and competences to sustain value capture and creation, an MNE's DCs requires the continuous sensing and seizing of changing opportunities and needs on a global basis and prompt execution. This ability to orchestrate assets, globally referred to here as "managerial orchestration", is an essential element of DCs (Teece, 2007; Katkalo et al., 2010).

b. The Special Role of Complementary and Co-specialized Assets

An especially important cognitive and strategic skill in the context of global competition and innovation is understanding the role of complements and complementary investments to enterprise success (Teece, 1986). In most analyses of competition and competitive advantage, it is common to stress that various innovations are substitutes, rather than complements. Schumpeter (1934), for example, stressed that successful innovations/firms are threatened by swarms of imitators, all striving to product "me-too" substitutes.

Of equal if not greater significance, however, (particularly in industries in which innovation might be characterized as cumulative), is complementary innovation. For instance, in the enterprise software industry business applications can be especially valuable to users if they can somehow be integrated into a single program, or into a tightly integrated suite.[12] With the sources of technology being widely distributed

internationally, there is a requirement to integrate globally distributed assets using the MNE as the instrument to do so. Accordingly, cross-border operations by MNEs are not just about scale and extending global reach. They are also about achieving complementarities horizontally and vertically.

Complementary assets (the case where the value of an asset is a function of its use in conjunction with other assets) can be referred to as co-specialized assets.[13] With co-specialization, joint use is not only value enhancing;[14] It also will be asset specific (i.e., the co-specialized assets do not have a market in which they can be sold for their full value).

Situations of co-specialization can emerge from R&D investments or from "thin" markets i.e. the assets in question are idiosyncratic and not readily bought and sold in a market. Capturing co-specialization benefits frequently requires integrated operations. An enterprise's ability to identify, develop and leverage specialized[15] and co-specialized assets built or bought is a core dynamic capability (Augier and Teece, 2007).

With co-specialization, value can be added, and potentially appropriated by another party when an asset owner is not cognizant of the value of its assets to other parties with assets whose value will be enhanced through combination.[16] This arises because the markets for co-specialized assets are necessarily thin, and are frequently global in nature.[17] This implies that co-specialized assets may need to be combined in order to enable systemic innovation[18] to proceed and to allow value appropriation in multivariate contexts (Somaya et al. 2009). If they cannot be procured externally, they

will need to be built internally. MNEs can therefore create value by combining co-specialized assets.[19]

c. Dynamic Capabilities and SCA

The DCs perspective on the MNE is about rapid innovation, adaptation, and flexibility across multiple jurisdictions. It puts substance behind the concept of 'agility'. Importantly, it also about the proactive entrepreneurial shaping of the footprint of the MNE itself, but also the market and ecosystem. It is necessary for CA for the MNE to build the right capabilities and that they be non-imitable. Non-imitability is best assured in the presence of "isolating mechanisms" and "tight appropriability regimes"[20] (Rumelt, 1987; Teece 1986, 2006b). Under a "tight" regime, superior performance can be more readily sustained, at least for a time.

Below we claim that the firm-level DCs described above can help explain the new nature and the essence of the MNE and FDI in the semi-globalised intangible economy. Towards this objective we leverage the concept of cross-border market co-creation and explore its implications for the economic theory of the MNE and FDI.

V. Dynamic Capabilities, and Cross-border Market Co-creation: Towards an Entrepreneurial Theory of the MNE

a. Introductory Remarks

Following on Coase's (1937, 1960, 1991) footsteps, the economic theory of the firm and the MNEs relied on a separation between the objective of firms (usually taken to be the pursuit of profit), the nature of the firm (for Coase, the employment contract

between capital and labour), and the essence of the firm (or how do firms "run a business" to achieve competitive advantage) (Pitelis and Teece, 2009). The economic theory of the MNE has largely relied on the same conventions. In the previous sections we showed that the injection of DCs into the theory of the MNE helps explain the essence of the MNE – or how firms achieve cross-border strategic advantage (SA). In this section we claim that the distinction between objective, nature and essence is of limited relevance to organization, strategy and entrepreneurship scholarship, not least because it downplays the role of economic agency (in particular entrepreneurship and entrepreneurial management) that the DCs perspective brings centre stage.

In particular, a defining, even existential issue of the strategy field, is whether and how the pursuit of value capture motivates economic agents to set-up organizations and develop strategies that assist them in capturing value. We suggest that organizational value capture, value creation and CA are co-determined and co-evolving, in that the objective (value capture), informs the nature and the essence, which are in turn intrinsically interrelated (Pitelis, 2009a). In this context, the concepts of co-specialisation and DCs help explain the nature of the MNE and the creation of firm specific advantage.

b. Cross-border Co-specialization

As applied to the case of the case of the MNE, co-specialisation (scope economies and subadditivity being just one example) helps explain why it is often beneficial to bring together firm-level and country-level advantages in setting up of an organisation cross-border, which is the nature of the MNE (Verbeke, 2009). As noted, for example,

it is often the case that co-specialisation dilemmas (and hence co-specialisation opportunities) are found cross-border. This is especially true for co-specialised intangible assets, at least knowledge embodied in specialist human resources (Teece, 2009). In such cases co-specialisation explains why the MNE is a desirable structure for organizing economic activity when (internalization) is deemed preferable in terms of its ability to better capture the value from such opportunities, (through designing requisite value appropriation architectures), cross-border integration (i.e., the internalization of activity inside the firm) will be chosen over market-based transactions. Thus the nature (designing and setting-up of organisation) and the essence (employing strategy to capture value) are co-determined and are linked to asset co-specialisation and the DCs required to orchestrate such assets.

Consider the example of mPortal, a young venture involved in wireless content provision. According to its CEO, JP Venkatesh, mPortal is a naturally born global firm "from day zero" and because he himself "knew no other way". Besides the CEO's own multi-national background, an important reason involved cross-border asset co-specialisation. In a rather extreme such case, the suitable programmer for prototypes (development partner) in terms of flexibility, creativity and complementarity was based in Holland. That led to a fruitful collaboration, without the two parties ever having to meet. The case of mPortal shows why cross-border asset co-specialisation and complementarity help explain internationalisation, but not necessarily integration.

In the case of OriGene Technologies, a US-based young venture mapping the human genome, cross-border asset co-specialisation (between the USA and China) probably

constitutes the key reason it can exist. According to OriGene Technologies' CEO Wei-Wu He, the requisite technology is only available in the US, which leads China by at least 20 years. However, the production of protein (a high labor-intensive, rather tedious job), could only be undertaken in China. For the time being, it happens that no other place (or technology) could satisfy OriGene's objectives, leading to a perceived view of extreme cross-border co-specialization. Integration (FDI) in this case may be predicated on the need to protect the technology, ensure quality control and related reasons. Importantly, however, for OriGene's CEO, an important reason for FDI is to "be there as a leader". This goes beyond extant theory of co-specialisation, and is pursued below.

c. Market Creation and Co-creation

The extant IO economics-based approach assumes pre-existing markets, which fail under certain conditions, necessitating the emergence of business – firms to address these failures. However, in real life conditions of uncertainty and limited knowledge and rationality, the critical issue for aspiring entrepreneurs and/or entrepreneurial managers, involves creating markets for their ideas in the first place. Such markets often do not exist, or are very thin or otherwise imperfect. As often discussed in the folklore of the history of business strategy, early path-breaking ideas, such as the PC or the CT scanner, were met with scepticism and over-pessimistic guesstimates of their market size potential (Teece, 1986). In such cases it was up to the originators of these ideas to try to prove themselves right. This often requires amassing the co-specialized and complementary assets required to set-up an organization and adopt the requisite structures and strategies to create and co-create the (final product) markets.

Once these markets are established, the enterprise will endeavour to capture as much value as possible through the simultaneous development and leveraging of value capture strategies and vehicles (Pitelis and Teece, 2009).

Importantly, as markets for ideas created in one national location are less likely to exist in another one, in the knowledge-based economy cross-border market creation and co-creation is likely to be the norm. In everyday language, we submit that to help co-create a market one needs to at least be a part of the co-creation process. As markets are co-created, exchanges occur; as local players participate with their firm and country-specific advantages, the co-creation of cross-border markets enhances social value creation.

It follows from the above that the reason for the MNE is not just co-specialisation and related issues. Importantly, the MNE exists because cross-border presence can well be part and parcel of the market co-creation process. The MNE becomes a proactive element in the global economic system. It does more than rectify market failures. In our schema, it also proactively helps create and orchestrate a panoply of global assets in a manner which engenders the creation of markets in which both the MNE and other enterprises subsequently participate. The outcome of this process depends on the actions of the firm itself and the other participants in the market co-creation process (such as customers, suppliers, competitors, potential entrants, etc). These actions are partly endogenous to the actions of the MNE, and partly dependent on the actions of the markets co-creators, which are more often than not, not known or even predictable. Put differently, extant economic theory of the MNE and FDI assumes prior knowledge on O advantages, L advantages and I advantages. This is an heroic

assumption. In addition it assumes behaviour based on extant conditions, however, in practice entrepreneurs act on the basis of anticipated and partly malleable conditions, both internal and external to the firm (Pitelis, 2007a).

Through market co-creation, entrepreneurial management also helps establish the very eco-system within which the MNE operates. In contrast to Porter (1980, 1985) and the basic IO model, the DCs literature utilizes the concept of the eco-system (not the industry) (Teece, 2007) as the unit of analysis We extend this idea by submitting that eco-systems are also partly endogenous, being co-created by entrepreneurial managers. Eco-system co-creation, as well as market co-creation, allows firms to co-create social value for the purpose of its private appropriation.

Interestingly this idea is close to some of Porter's other work on clusters, (Porter, 1990). This work and the emergent literature on clusters show how firm locational decisions help engender eco-systems and augment markets. It often is the case that MNEs act as catalysts for cluster creation (Cantwell, 2000). Cross-border market, cluster, and eco-system co-creation, is arguably at least as important an explanation of the nature and essence of the MNE, as is market failure, in our view more. The orchestration of this process of social value co-creation involves critical DCs, in designing and setting up organisations, and employing them to co-create markets, clusters and eco-systems. Given the enormity of this task, we submit that the requisite DCs are the DCs par-excellence. They involve setting-up organisation to scan and leverage co-specialized and complementary resources cross-border, in order to co-create and shape the, eco-system. They include in various and changing mixes all the DCs discussed earlier and more. FDI is critical in this context, as it affords the control

necessary to play the game – in which franchisees and/or partners may be inexistent, uninterested, less committed and/or plainly less competent players. While at the very conceptual level this is a form of market failure (a non- existent or thin market), market and eco-system co-creation is only effectuated, through real presence in a jurisdiction.

d. Some Examples and Observations

A look at the cross-border activities of MNEs is in line with our arguments. This applies not only in high-tech sectors, but even in cases such as Coca Cola and McDonald's, companies usually associated with more low-tech activities and outsourcing. However, take for example Coca-Cola and its cross-border activities in China and India. These activities do not simply involve solving existing market failures. Instead, they involve the creation of markets by designing and setting-up bottling companies and distribution systems; by inventing new refrigerating technology, and by influencing user perceptions. They also involve further co-creation through the entry of competitors (such as Pepsi Cola) and competition with local players. They involve make or buy decisions (for example vis-à-vis local competitors such as Huiyuan in China) and careful dealings with foreign governments – who more than anyone else perhaps can help co-create the market for carbonated drinks (even unintentionally), for example through urbanisation. Importantly, it involves attempts to shape the footprint and the direction of change of the market, and its partial closure to others. This way, DCs in market co-creation simultaneously functions, in part, as a value appropriation strategy for the firm.

The case of McDonald's is even more telling. When entering Russia, the company had to build a new meat plant (greenfield FDI), and create a whole ecosystem of suppliers, hitherto non-available in a previously centrally planned economy. It did so by first undertaking in-house (internalising) all requisite activities for the 300 or so ingredients needed by a McDonald's outlet and then gradually externalising them to independent suppliers that it helped create. Critically it was always McDonald's intention to eventually outsource (as noted by global chief executive Jim Skinner in an interview with Andrew Kramer in the *New York Times*, February 2, 2010). It internalised with an eye to eventual externalisation, thereby pro-acting in an anticipatory way! As a result some suppliers went on to become large companies in their own right, thereby co-creating a market and an eco-system.

The need to proactively shape and co-create markets often through presence on the ground is undergirded by statements from CEOs such as OriGene Technologies' Wei-Wu He, to the effect that being there and being a leader, is an important factor for success. Perhaps even nearer to our point is the view of Beth Comstock, CMO and SVP of GE, according to whom GE is involved in defining and creating its eco-system. Also the view of industry commentators to the effect that Apple opens up and dominates new markets (*The Economist*, January 30, 2010). Such views support our idea about market and eco-system co-creation. In addition, given the enormity of the task (acknowledged for example by Comstock), the need for requisite DCs becomes of the essence.

It should be emphasized that market and eco-system co-creation and value appropriation strategies are not the result of some abstract, imaginary market that has

somehow failed. Instead the objective of value appropriation motivates cross-border organisation and market co-creation. DCs in value appropriation are leveraged simultaneously in order to capture as much as possible of the co-created value, which by virtue of the co- in co-created could simply not have existed, if players like Coca-Cola, GE, or OriGene Technologies had not been part of the game to start with. As noted by Foucault (1980:154), 'Power is exercised by virtue of things being known and people being seen'. The same is true of firms.

The evolution of MNEs as documented by business historians, such as Jones (2002), is also supportive of our arguments. Jones' work paints a picture of multi-national merchant entrepreneurs capturing value by leveraging their intangible advantages in knowledge and human interaction – networking through distant foreign market identification, creation and co-creation. When necessary this involved the creation of supporting organizations (such as banks) as well as diversification in manufacturing, supportive of their trading activities. Jones' picture is one of co-evolution and complementarity between entrepreneurship, markets and organizations whereby entrepreneurs co-create markets and the wider eco-system, often by setting-up organizations while at the same time solving market failures by also setting up the complementary organisations. Agency, in the form of entrepreneurship and entrepreneurial management, is of the essence in this context and helps establish the coincidence between the objective, nature and essence of the MNE. Interestingly market creation and solution to co-created market failures co-exist and are part and parcel of the pursuit of value appropriation.

In the above context, perceived advantages in cross-border market and eco-system creation and co-creation, and the leveraging of strategies for value capture, can be seen as important reasons why MNEs exist and seek quasi-SA. The above ideas extend and extract Teece's ideas on co-specialisation.

Market co-creation is particularly relevant in a semi-globalized, knowledge-based economy, not least because knowledge markets are notoriously thin or even non-existent (Teece, 2007). The objective of the principals (entrepreneurs-to-be and entrepreneurial managers), motivates the setting-up of a cross-border organization (the MNE) and the adoption of strategies for value capture through market, eco-system and value co-creation. Cross-border asset co-specialisation and the need to be a player with respect to market and eco-system co-creation help explain why MNEs exist. The co-existence of internalisation with externalisation, closed and open innovation, the adoption of a stages approach to entry modalities, and the orchestration of the value creation process by MNEs, are much better explicable in our proposed context. They are all part of the process of social value co-creation, for private value appropriation. Profit-savvy MNEs increasingly realise they have more to gain if they help increase the pool of social value, provided they position themselves through strategy to capture more than it could have otherwise been the case. Extant theory fails to address adequately these issues.

To the extent that the actions of MNEs do not undermine the process of sustainable global value creation (for example through the adoption of the global collusive strategies predicted and feared by both Hymer and Penrose, and/or the failure to alleviate intra-firm conflict with employees (Pitelis, 2007b)), the process is global

efficiency enhancing. Clearly this need not always be the case, which therefore necessitates the design and co-evolution of appropriate corporate, public, civic and global governance structures that foster economic sustainability (Mahoney et al, 2009). The development and leveraging of DCs for market, eco-system and value co-creation and capture by MNEs can be a potent contributor to this process under the conditions cited above.

VI. Concluding Remarks

Since Hymer's canonical contribution on the MNE and FDI fifty years ago, scholars have presented and tested ideas which help us to understand the MNE better, and to explain FDI more cogently. In recent years, an understanding of capabilities has begun to emerge in the strategic management literature. These capabilities are ones that can generally be scaled successfully cross-border, are normally located within firms and can be leveraged more effectively intra-firm.

The presence of non imitable firm-specific assets possessed by MNEs is important to the theory of the MNE as it suggests, inter alia, (1) FDI can occur in industries other than research intensive ones. MNEs may possess firm special organizational assets. For example, Dell Computer's business model can suffice to undergird its global FDI strategy; (2) The assets that are at the core of the MNEs CA are ones for which the market for knowhow is likely to function rather poorly. Organizational routines, governance systems, and business models cannot generally be protected by the instruments of IP law - and the absence of secure property rights is likely to handicap the operation of the market for knowhow - indicating that FDI is likely an important

vehicle by which firms' capture value from innovation; (3) The firm with the high performance systems is likely to be able to generate sufficient profits and the cash flow to support scaling the business, domestically and internationally; (4) MNE expansion is likely to be associated with entrepreneurial management i.e. firms active in seeking and effectuating "new combinations" domestically are also likely to seek and effectuate them globally; (5) MNE expansion is likely to be as much a function of business creativity as it is technological prowess.[21] The capabilities approach recognizes the importance of technological knowhow, but also a whole raft of organizational and managerial factors which have hitherto received limited attention.

The DCs view also helps address currently dominant concerns of organization, strategy and entrepreneurship scholarship. These refer to whether and how intended value capture motivates the setting up of cross- border organizations (the nature of MNEs), as well as market and value co-creation for the purpose of value capture (the essence of the MNE).

The capabilities perspective, and concepts such as cross-border asset co-specialisation, and market and value co-creation help explain the new nature and essence of the MNE in the semi-globalised, knowledge-based economy. In particular, the capability to orchestrate and leverage co-specialized and complementary assets in order co-create cross-border markets is arguably the grandest of all DCs and an important reason behind the spectacular advances of globalization, notwithstanding the current crisis and apparent de-globalization set-backs. It is hoped that his paper will stimulate further research and help us better appreciate the nature, behaviour and impact of MNE activity.

ENDNOTES

[1] Teece (1977, 2006a) attacked this perspective as being both inadequate and not as powerful or relevant as the "efficiency" perspective.

[2] 'Rivalry' received little attention, save in works such as Vernon (1966, 1979) and Graham (1990). The impact of inter-national diversification on firm performance has been explored by Delios and Beamish (1999); see Qian et al. (2008) for a recent account.

[3] Vernon's (1966, 1979) 'Product-life-cycle' and Dunning's OLI approaches had the wider objective of explaining international production. This involves broader considerations than the internalisation of advantages, hence Dunning's focus on location, and Vernon's emphasis on inter-firm rivalry, intra- and inter- nationally. In addition, Vernon (1979) aimed to explain the inter-temporal process of internationalisation. This was initially at least less evident in internalisation theories, as well as the OLI. Subsequently, Dunning aimed to rectify this, by developing the concept of the investment development cycle (IDC) (see Dunning and Lundan, 2008). A stages approach has been developed by the "Scandinavian school", which purports to explain the choice of location by MNEs partly in terms of degrees of liability of foreignness (and more recently outsidership of markets) (Johanson and Valhne, 1977, 2009).

[4] Recent interest in institutions and development (for example North, 1994), led to cross-fertilisation between international business scholarship and development and institutional economics (Dunning, 2006; Dunning and Lundan, 2010; Cantwell et al., 2009).

[5] Exceptions include Hood and Young (1979: 56) who state clearly (92) that "large corporations do possess, and lay much store by, acquired managerial experience

through which profit opportunities are diagnosed. Such experience is an important dimension of an MNE's comparative advantage". The framework here endeavours to specify what particular management expertise is likely to be critical.

[6] Penrose did not overplay, from a theoretical perspective, the international aspects of large corporations (Pitelis, 2000). However, she did note that: "the managerial, technological, or financial contribution from the parent may be considerable and generally make new real resources available to the local economy" (Penrose, 1968: 43).

[7] In Hymer's words: "The most important aspects of international operations may be the capital flows associated with them, but it is by no means the only aspect. Also, associated with international operations is the flow of business technique and skilled personnel" (Hymer, 1976: 69).

[8] See also Feinberg and Gupta (2004) and Pitelis (2000).

[9] It is critical to analytically treat the firm's assets as not necessarily being permanently bound ("integrated") to the firm.

[10] Orchestration is the process by which managers make, build, acquire, deploy, and redeploy decisions with respect to assets/capabilities.

[11] Makadok (2001) distinguishes between flexibility and commitment-based theories. As explained in Teece et al. (1990, 1997) the DCs approach is Schumpeterian in its lineage and can be thought of as endorsing the value of flexibility. However it ought to be recognized that the DCs framework may not be relevant to all environments e.g. highly regulated industries shielded from competition (such as water reticulation).

[12] The development of gyroscopic stabilizers for example made imaging devices such as video cameras and binoculars easier to use, and enhanced the product, especially

when the new features are able to be introduced at low cost. Likewise, better batteries enable personal computers and cell phones to run longer between charging.

[13] Lippman and Rumelt's (2003a, 2003b) work on developing the microfoundations for RBV is complementary to Teece's development of the microfoundations of DCs. In particular, they use the concept of supermodularity to bring in the tools of cooperative game theory.

[14] Complete co-specialization is a special case of economies of scope where not only are complementary assets more valuable in joint use than in separate use, but they may in fact have zero value in separate use and high value in joint use. Co-specialization may stem from economies of scope, but they could also stem from the revenue enhancement associated with producing a bundled or integrated solution for the customer.

[15] A specialized asset is an asset that cannot be put to alternative use without loss in value (Joskow, 1985).

[16] Even if they are cognizant, they may not have the bargaining power to take advantage of the situation (Teece, 1986).

[17] Because the co-specialized assets in question are unique, competitors cannot necessarily obtain these assets, and even if they could, the co-specialized asset is likely to have a different value in use if the competitor has a different portfolio of complementary assets.

[18] For a discussion of systemic innovation, see Teece (1988, 2000).

[19] The computer, software, and electronics industries are riddled with co-specialization requirements and opportunities domestically and globally. An example is the iPod pioneered by Apple. Apple combined known technology (digital music players had already been invented) with the iTunes music store (a co-specialized

"asset" pioneered by Apple) and digital rights management (DRM) software developed by Apple to give the artists confidence that their music would not be pirated. These key elements were combined in a well-designed package (the iPod player itself) which has all but obliterated competition in the personal stereo market. Nevertheless, the components that make up the iPod are almost completely outsourced. As one observer noted: "take an iPod apart and 83% of the components are made by Japanese companies" (Jesper Kroll, quoted in *The Financial Times*, May 5, 2005, p. 11).

[20] CAs are continuously eroded by actions of other players which lead again to higher levels of competition and the need to react faster. These dynamic interactions between firm learning and adaptation, on the one hand, and higher levels of competition and selection, on the other hand, can cancel each other out. This is often dubbed an 'arms race' or 'the Red Queen effect' (Kaufman, 1995) after the comment to Alice, 'it takes all the running you can do to keep in the same place' (Carroll, 1946). When isolating mechanisms are operative, and appropriability regimes are tight, Red Queen effects can be partly overcome.

[21] Since technologies and intellectual property can generally be licensed more readily than business intangibles, the framework would suggest high levels of FDI from countries with high levels of business creativity, all else equal.

REFERENCES

Almeida, P. and Anupama, P. (2004), "Subsidiaries and Knowledge Creation: The Influence of the MNC and Host Country on Innovation", *Strategic Management Journal*, **25**(8-9), 847-864.

Augier, M and Teece, D.J. (2007), 'Dynamic Capabilities and Multinational Enterprise: Penrosean Insights and Omission', *Management International Review*, **47**(2), 175-192.

Augier, M and Teece, D.J. (2009), 'Dynamic Capabilities and the Role of Managers in Business Strategy and Economic Performance', *Organization Science*, **20**(2), 410-421.

Bain, J. (1956), *Barriers to New Competition, their Character and Consequences in Manufacturing Industries*. Harvard University Press: Cambridge.

Barney, J.B. (1991), 'Firm Resources and Sustained Competitive Advantage', *Journal of Management*, **17**(1), 99–120.

Birkinshaw, J. (1997a), 'Entrepreneurship in Multinational Corporations: The Characteristics of Subsidiary Initiatives', *Strategic Management Journal,* **18**(3), 207-229.

Birkinshaw, J. (1997b), 'How Multinational Subsidiary Mandates are Gained and Lost', *Journal of International Business Studies*, **27**, 467–496.

Birkinshaw, J., and Hood, N. (1998), 'Multinational Subsidiary Evolution: capability and charter change in foreign owned subsidiary companies', *Academy of Management Review*, **23**(4), 773-775.

Birkinshaw, J., and Hood, N. (2000), 'Characteristics of foreign subsidiaries in industry clusters', *Journal of International Business Studies*, **31**(3), 141-157.

Boddewyn, J. and Pitelis, C.N. (2009), 'In Search of the Meanings and Uses of 'M' and 'F' in the Economic Theories of the MNE and FDI', University of Cambridge and City University New York, mimeo.

Buckley, P. J. and Casson, M. C. (1976), *The Future of Multinational Enterprise*. Macmillan: London.

Cantwell, J. (1989), *Technological Innovation and Multinational Corporations*. Blackwell: Oxford.

Cantwell, J.A. (1991), 'The Theory of Technological Competence and its Application to International Production', in D.G. McFetridge (ed.), *Foreign Investment, Technology and Growth*. University of Calgary Press: Calgary.

Cantwell, J. (2000), 'A Survey of Theories of International Production', in Pitelis, C.N., Sugden, R. (eds), *The Nature of the Transnational Firm*. Routledge: London, 10-56.

Cantwell, J.A., Dunning, J.H. and Lundan, S.M. (2009) 'An Evolutionary Approach to Understanding International Business Activity: The Co-Evolution of MNEs and the Institutional Environment', *Journal of International Business Studies*, forthcoming.

Carroll, L. (1946), *Through the Looking Glass and What Alice Found There*. Random House: New York City.

Casson, M. (2005), 'Entrepreneurship and the Theory of the Firm', *Journal of Economic Behavior and Organization*, **58**, 327-348.

Chesbrough, H. (2003), *Open Innovation: the New Imperative for Creating and Profiting from Technology*. Harvard Business School Press: Boston, Massachusetts.

Coase, R. (1937), 'The Nature of the Firm', *Economica*, **4**(16), 386-405.

Coase, R (1960), 'The Problem of Social Cost', In *Journal of Law and Economics*, **3**(1), 1-44.

Coase, R. (1991) 'The Nature of the Firm: Influence', in Oliver Williamson and Sidney Winter (eds.), *The Nature of the Firm: Origins, Evolution and Development*. Oxford University Press: Oxford.

Delios, A. and Beamish, P.W. (1999), 'Geographic Scope, Product Diversification, and the Corporate Performance of Japanese Firms', *Strategic Management Journal*, **20**, 711-727.

Di Stefano, G., Peteraf, M. and Verona, G. (2010), 'Dynamic Capabilities Deconstructed: A Bibliographic Investigation into the Origins, Development, and Future Directions of the Research', *Industrial and Corporate Change* (This Issue).

Dosi, G., Nelson, R. and Winter S. Eds. (2000), *The Nature and Dynamics of Organizational Capabilities*. Oxford, UK: Oxford University Press.

Dosi, G., Faillo, M. and Marengo, L. (2008), 'Organizational Capabilities, Patterns of Knowledge Accumulation and Governance Structures in Business Firms: An Introduction', *Organization Studies*, **29**(8/9): 1165-1185.

Dunning, J. H. (1980), 'Toward an Eclectic Theory of International Production: Some Empirical Tests', *Journal of International Business Studies*, **11**(1), 9-31.

Dunning, J. H. (1998), 'Location and the Multinational Enterprise: A Neglected Factor?', *Journal of International Business Studies*, **29**(1), 45–66.

Dunning, J. H. (2001), "The Eclectic (OLI) Paradigm of International Production: Past, Present and Future", *International Journal of the Economics of Business*, **8**(2), 173-190.

Dunning, J. H. (2006), 'Towards a New Paradigm of Development: Implications for the Determinants of International Business Activity', *Transnational Corporations*, **15**(1), 173–228.

Dunning, J. H. and Lundan, S. M. (2008), 'The MNE as a Creator, Fashioner and Respondent to Institutional Change', in Collinson, S. and Morgan, G. (eds.), *The Multinational Firm*. Blackwell Publishers: Oxford.

Dunning, J.H. and Lundan, S.M. (2010), 'The Institutional Origins of Dynamic Capabilities in Multinational Enterprises', *Industrial and Corporate Change* (This Issue).

Dunning, J. H. and Pitelis, C. N. (2008), 'Stephen Hymer's Contribution to International Business Scholarship: an Assessment and Extension', *Journal of International Business Studies,* **39**, 167-176.

Dunning, J. H., and Rugman, A. (1985), 'The Influence of Hymer's Dissertation of the Theory of Foreign Direct Investment', *The American Economic Review*, **75**(2), 228–239.

Economist. (2010), *The Book of Jobs: Hope, Hype and Apple's iPad*, January 30, 2010.

Eden, L. (1991), 'Bringing the Firm Back in: Multinationals in International Political Economy', Millennium: *Journal of International Studies*, **20**(2), 197–224.

Feinberg, S. and A. Gupta (2004), 'Knowledge Spillovers and the Assignment of R&D Responsibilities to Foreign Subsidiaries', *Strategic Management Journal*, **25**, 823-845.

Foss, N. J. (1996), 'Knowledge-Based Approaches to the Theory of the Firm: Some Critical Comments', *Organization Science*, **7** (5), 470-476.

Foucault, M. (1980), *Power/Knowledge: Selected Interviews and Other Writings by Michel Foucault, 1972-77.* C. Gordon (Ed.) Brighton: Harvester.

Ghemawat, P. (2007), *Redefining Global Strategy*. Harvard Business School Press: Boston, Massachusetts.

Graham, E. M. (1990), 'Exchange of Threats Between Multinational Firms as an Infinitely Repealed Non Cooperative Game', *International Trade Journal*, **4**(3), 259–277.

Grant, R.M. (1996), 'Toward a Knowledge-based Theory of the Firm', *Strategic Management Journal*, **17**, 109-122.

Hedlund, G. (1986), 'The Hypermodern MNC: A Heterarchy?' *Human Resource Management*, **25**, 9-36.

Hood, N., and S. Young (1979), *The Economics of Multinational Enterprise*, Longman: London.

Horst, T. (1972), 'Firm and Industry Determinants of the Decision to Invest Abroad: an Empirical Study', *Review of Economics and Statistics*, **54**(3), 258-266.

Hymer, S.H. (1968), 'The Large Multinational Corporation: An Analysis of some Motives for the International Integration of Business', in M.Casson (ed.) (1990) *Multinational Corporations.* Edward Elgar: Aldershot [translation of an article published in French in *Revue Economique* (1968) **19**, 949-973.

Hymer, S.H. (1960/1976), *The International Operations of National Firms: A Study of Direct Foreign Investment* (Doctoral Dissertation, MIT, 1970). MIT Press: Cambridge, Massachusetts.

Johanson, J. and Vahlne, J.E. (1977), 'The Internalization Process of the Firm-A Model of Knowledge Development and Increasing Foreign Market Commitments', *Journal of International Business Studies*, **8** (1): 23-32.

Johanson, J. and Vahlne, J.E. (2009), 'The Uppsala Internationalization Model Revisited: From Liability of Foreignness to Liability of Outsidership', *Journal of International Business Studies*, **40**: 1411-1433.

Jones, G. (2002), *Merchants to Multinationals: British Trading Companies in the Nineteenth and Twentieth Centuries*. Oxford University Press: Oxford.

Joskow, P. (1985), 'Vertical Integration and Long Term Contracts: The Case of Coal-Burning Electric Generating Plants', *Journal of Law Economics and Organization*, **1**, 33-80.

Katkalo, V.S., Pitelis, C.N. and Teece, D.J. (2010), 'On the Nature and Scope of Dynamic Capabilities', *Industrial and Corporate Change* (This Issue).

Kaufman, S. (1995), *At Home in the Universe*. Oxford University Press: New York.

Kay, N. (2010), 'Dynamic Capabilities as Context: the Role of Decision, System and Structure', *Industrial and Corporate Change* (This Issue).

Kogut, B. & Zander, U. (1993), 'Knowledge of the Firm and the Evolutionary Theory of the Multinational Corporation', *Journal of International Business Studies*, **24**(4), 625-645.

Kottaridi, C. Papanastassiou, M. and Pitelis, C.N. (2010), 'MNE Subsidiaries, 'Productive Opportunity', and the Location of Innovative Activity', in Nijkamp, P. and Siedschlag, I. (Eds.) *Economic Growth, Innovation and Competitiveness in a Knowledge-Based World Economy*. Edward Elgar, forthcoming.

Kramer, A.E. (2010), 'Russia's Evolution, as Seen Through the Golden Arches', *The New York Times*, February 2, 2010.

Lippman, S. A. and R. P. Rumelt (2003a), 'A Bargaining Perspective on Resource Advantage', *Strategic Management Journal*, **24**, 1069-1086.

Lippman, S. A. and R. P. Rumelt (2003b), 'The Payments Perspective: Micro-Foundations of Resource Analysis', *Strategic Management Journal*, **24**, 1069-1086.

Magee, S. (1977), 'Information and the Multinational Corporation: An Appropriability Theory of Foreign Direct Investment', in J. Bhagwati (ed.), *The new international economic order: The North-South debate*. MIT Press: New York and London.

Mahoney, J. T. and Pandian, J. R. (1992), 'The Resource-Based View Within the Conversation of Strategic Management' *Strategic Management Journal*, **13**(5), 363-380.

Mahoney, J. T., McGahan, A. and Pitelis, C. N. (2009), 'The Interdependence of Private and Public Interests', *Organization Science*, **20**(6), 1034-1052.

Makowski, L., and Ostroy, J.M. (1995), 'Appropriation and Efficiency: A Revision of the First Theorem of Welfare Economics', *The American Economic Review*, **85**(4), 808-827.

Makadok, R. (2001), 'Toward a Synthesis of the Resource-based and Dynamic-capability Views of Rent Creation', *Strategic Management Journal*, **22**(5), 387-401.

Mansfield, E., Teece, D.J. and Romeo, A. (1979) 'Overseas Research and Development by US-Based Firms', Q*uarterly Journal of Economics*, **95**, 737-750.

North, D. C. (1994), 'Economic Performance through Time', *The American Economic Review,* **84**(3), 359-368.

Panagopoulos, A. and Pitelis, C.N. (2009), 'Innovation Governance for Value Capture – The Problem and a Simple Model-based Solution', *International Journal of Strategic Change Management*, **3**(1), 171-185.

Papanastassiou, M. and Pearce, R.D. (2009), *The Strategic Development of Multinationals*. Palgrave Macmillan: Basingstoke, UK.

Penrose, E.T. (1959/1995), *The Theory of the Growth of the Firm*. 3rd ed. Oxford University Press: Oxford.

Penrose, E.T. (1968), *The Large International Firm in Developing Countries: The International Petroleum Industry*. Allen & Unwin: London.

Penrose, E.T. (1987), 'Multinational Corporation', *The New Palgrave. A Dictionary of Economics*. Macmillian: London, 562-564.

Peteraf, M.A. (1993), 'The Cornerstones of Competitive Advantage: A Resource Based View', *Strategic Management Journal*, **14**(3), 479-488.

Pitelis, C.N. (1991), *Market and Non-market Hierarchies: Theory of Institutional Failure*. Blackwell Publishing: Oxford.

Pitelis, C.N. (2000), 'A Theory of the (Growth of the) Transnational Firm: A Penrosean Perspective', *Contributions to Political Economy*, **19**, 71-79.

Pitelis, C.N. (2007a), 'Edith Penrose and a Learning-Based Perspective on the MNE and OLI', *Management International Review*, **47**(2), 207-220.

Pitelis C. N. (2007b), 'A Behavioral Resource-based View of the Firm - The Synergy of Cyert and March (1963) and Penrose (1959)', *Organization Science,* **18**(3), 478-490.

Pitelis, C.N. (2009a), 'The Co-Evolution of Organizational Value Capture, Value Creation and Sustainable Advantage', *Organization Studies*, **30**(10), 1115-1139.

Pitelis, C.N. (2009b), Introduction. 'Edith Penrose's "The Theory of the Growth of the Firm" Fifty Years Later'. In E. Penrose, The *Theory of the Growth of the Firm*, 4th ed. Oxford: Oxford University Press.

Pitelis, C.N. and Teece, D. J. (2009), 'The (New) Nature and Essence of the Firm', *European Management Review*, **6**, 5-15.

Porter, M.E. (1980), *Competitive Strategy: Techniques for Analyzing Industries and Competitors.* The Free Press: New York.

Porter, M.E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*. The Free Press: New York.

Porter, M. (1990), *The Competitive Advantage of Nations*. The Free Press: New York.

Qian, G., Li L., Li J., & Qian Z. (2008), 'Regional Diversification and Firm Performance', *Journal of International Business Studies*, **39**(2), 197-214.

Rathe, K. & Witt, U. (2001), 'The Nature of the Firm – Static versus Developmental Interpretations', *Journal of Management and Governance*, **5** (3-4), 331-351.

Research Policy. (2006), *Special Issue Commemorating the 20th Anniversary of David Teece's Article, 'Profiting from Innovation'*, Chesbrough, H., Birkinshaw, H. J., & Teubal, M. (eds.), **35**(8).

Romme, G., Zollo, M. and Berends, P. (2010), 'Dynamic Capabilities, Deliberate Learning and Environmental Dynamism: A Simulation Model', *Industrial and Corporate Change* (This Issue).

Rugman, A.M. (1980), 'Internalization as a General Theory of Foreign Direct Investment: A Reappraisal of the Literature', *Weltwirtschaftliches Archiv*, **116** (2), 365-379.

Rumelt, R. (1984), 'Towards a Strategic Theory of the Firm', in RB Lamb (ed.), *Competitive Strategic Management*. Prentice Hall: Englewood Cliffs, NJ.

Rumelt, R. (1987), 'Theory, Strategy, and Entrepreneurship', in D. J. Teece (ed.), *The Competitive Challenge*. Harper and Row: New York, NY.

Schumpeter, J. (1934), *The Theory of Economic Development*. Harvard University Press: Boston, MA.

Simon, H.A. (1995), 'Organisations and markets', *Journal. of Public Administration. Research. & Theory* (Transaction), **5**(3), 273-295.

Somaya, D., Teece, D.J. and Wakeman, S. (2009), 'Innovating in Multi-Invention Contexts: Business Models & Patent Strategies', mimeo, Universities of Illinois Urbana-Champaign and California, Berkeley and European School of Management and Technology.

Spender, J.C. (1996), 'Making Knowledge the Basis of a Dynamic Theory of the Firm', *Strategic Management Journal*, Special Issue: Knowledge and the Firm, **17**, 45-62.

Teece, D.J. (1977), 'Technology Transfer by Multinational Firms: The Resource Cost of Transferring Technological Know-how', *The Economic Journal*, **87**, 242-261.

Teece, D.J. (1981a), 'The Multinational Enterprise: Market Failure and Market Power Considerations', *Sloan Management Review*, **22**(3), 3-17.

Teece, D.J. (1981b), 'The Market for Know-how and the Efficient International Transfer of Technology', *The Annals of the Academy of Political and Social Science*, 81-96.

Teece, D.J. (1982), 'Towards an Economic Theory of the Multiproduct Firm', *Journal of Economic Behavior and Organization*, **3**, 39-63.

Teece, D.J. (1985), 'Multinational Enterprise, Internal Governance, and Industrial Organization', *American Economic Review*, **75** (2), 233-238.

Teece, D.J. (1986a), 'Profiting from Technological Innovation', *Research Policy*, **15** (6), 285-305.

Teece, D.J. (1986b), 'Transaction Cost Economics and the Multinational Enterprise: An Assessment', *Journal of Economic Behavior and Organization*, **7**, 21-45.

Teece, D.J. (1988), 'Capturing Value from Technological Innovation: Integration, Strategic Partnering, and Licensing Decisions', *Interfaces*, **18**(2), 46-61.

Teece, D.J. (2000), *Managing Intellectual Capital: Organizational, Strategic, and Policy Dimensions*, Oxford University Press: Oxford.

Teece, D.J. (2006a), 'Reflections on the Hymer Thesis and the Multinational Enterprise', *International Business Review*, **15**(2), 124-139.

Teece, D.J. (2006b), 'Reflections on "Profiting from Innovation"', *Research Policy*, **35**(8), 1131-1146.

Teece, D.J. (2007), 'Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance', *Strategic Management Journal*, **28**, 1319-1350.

Teece, D.J. (2009), *Dynamic Capabilities and Strategic Management: Organizing for Innovation and Growth*. Oxford University Press: Oxford.

Teece, D.J., G. Pisano, and A. Shuen (1990), 'Firm Capabilities, Resources and the Concept of Strategy', *Consortium on Competitiveness and Cooperation*, Working Paper, 90-8.

Teece, D.J., G. Pisano and A. Shuen (1997), 'Dynamic Capabilities and Strategic Management', *Strategic Management Journal,* **18**(7), 537-533.

Verbeke, A. (2009), *International Business Strategy*. Cambridge University Press: Cambridge.

Vernon, R. (1966), 'International Investment and International Trade in the Product Cycle', *Quarterly Journal of Economics*, **80**, 190-207.

Vernon, R. (1979), 'The Product Cycle Hypothesis in a New International Environment', *Oxford Bulletin of Economics and Statistics*, **41**, 255-67.

Wernerfelt, B. (1984), 'A Resource-based View of the Firm', *Strategic Management Journal*, **5**, 272-280.

Williamson, O. E. (1981), 'The Modern Corporation: Origins, Evolution, Attributes', *Journal of Economic Literature*, **19**(4), 1537-1569.

Winter, S. (2003), 'Understanding Dynamic Capabilities. *Strategic Management Journal,* **24**, 991-995.

Yamin M., and Forsgren, M. (2006), 'Hymer's Analysis of the Multinational Organization: Power Retention and the Demise of the Federative MNE', *International Business Review*, **15**(2), 166-179.